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TECHNICAL NOTE

SOME OF THE MAJOR PESTS IN THE FORESTS OF NOVA SCOTIA IN 1986

Insect and disease pests of forest trees can destroy wood already in the forest, reduce the amount of growth or affect the aesthetic appearance of the trees. A great number of pests are active in the Province each year, some general in distribution, others very much localized, some persist for a number of years, others flare up then disappear, some get a foot-hold and spread through the susceptible forest type, others can be checked and kept in place. All have some effect on the forest.

In 1986, over 200 species of insects and diseases were recorded in Nova Scotia. A few of the major pests or those with the potential to become major pests are briefly discussed below, with the exception of spruce budworm and the seedling-debarking weevil that are discussed elsewhere.

GYPSY MOTH, the most destructive hardwood defoliator in in North America, was first discovered in Nova Scotia in 1981. Since then it has been found at 22 locations in 8 counties in the western part of the Province. In most of these areas the insect is currently present at very low numbers. However, in some places like Shelburne or New Minas there is a definite population build-up. Although for now, gypsy moth may be considered an insect of inhabited areas (an urban pest?), it is likely to spread, if not controlled, and could become a major forest pest especially in western Nova Scotia where oak, one of its favorite food sources, is of economic importance. The presence of gypsy moth could also have detrimental consequences to the Christmas tree export industry.

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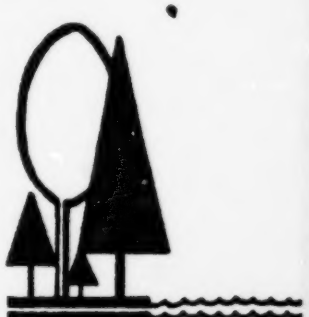

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PINEWOOD NEMATODE is an organism of great current concern because of implications of its presence to international trade. The nematode, introduced into trees by insect vectors, multiplies fast and kills trees in certain parts of the world. Surveys, involving over 150 areas in the Maritimes, identified three pine trees containing pinewood nematodes, all in New Brunswick. In addition, the so-called 'm' form, an affiliate of uncertain connection was found in three fir and spruce trees in Nova Scotia. Nematodes in all six trees were present in very low numbers and it is doubtful that they were the cause of death. There is no evidence to justify the pinewood nematode in the Maritimes as an organism of biological importance but the consequences of its presence may be economically significant.

SIROCOCCUS SHOOT BLIGHT is a disease of conifers, mostly of red pine. On most of the continent it is of no great consequence. However, in the Maritimes region of Canada, and especially in parts of Nova Scotia, the disease is considered one of the major impediments to the success of red pine plantation programs. The disease occurs both in plantations and in natural stands, repeated attacks cause shoot-, then branch-mortality and eventually kill trees as much as 15 m in height. Close to 40% of the stands are infected in the Province, more than 25% of the trees are affected and about 9% of the trees are dead (based on a survey in 1983). Sirococcus shoot blight is present throughout Nova Scotia but is most common and damaging west of the Colchester-Pictou and Halifax-Guysborough county lines. Plantations in many areas, such as Rushy Lake, Stanley Management Area, Chignecto Game Sanctuary are in seriously deteriorating condition. The disease is found more and more frequently in the eastern part of the Province and its control should be given serious consideration.

SPRUCE BEETLE, which killed about half of the merchantable white spruce on Cape Breton Island and caused widespread tree mortality in pockets on the mainland in the early 1980-s, has been on the decline in the last three years in most areas. Although the number of newly infested trees was down in many areas in 1986, most notably on Cape Breton Island, a slight increase was observed at some locations, such as in parts of Pictou and Antigonish counties.

EASTERN LARCH BEETLE, following widespread infestations of the larch sawfly in the 1970-s, killed off over 60% of the merchantable larch by 1981. Populations have been drastically reduced since then and although the insect is widely spread throughout the Province very few newly infested trees were observed in 1986. It appears that with the removal of much of the most susceptible tree sizes this beetle will not be a serious tree killer in the next few years.

EUROPEAN LARCH CANKER, a disease known to occur in North America only on mainland Nova Scotia and in southeastern New Brunswick, in Canada, in addition to a narrow coastal zone in Maine, causes cankers on branches or stems of trees resulting in branch mortality or death of small trees. The fungus infects a wide variety of larch species and can quickly spread through young stands (as much as 81% increase in incidence observed in just three years). To contain the disease, quarantine regulations have been put into effect by the Plant Health Division of Agriculture Canada, effective July 1, 1986. As the result of these regulations, the movement of certain larch material is restricted from mainland Nova Scotia and the southern part of New Brunswick. Also, certain restrictions now exist regarding the movement of some material within the quarantine area.

DUTCH ELM DISEASE has been known in the Province since 1969 but in most areas, except Cumberland-Colchester counties, was affecting less than 10% of the elm population as recently as 1982. Since then the disease has both spread and intensified greatly and now covers much of Nova Scotia and is killing trees in large numbers. In 1986, a multi-governmental control program resulted in close to 600 samples, most of them positive, and extended the known distribution of the disease, having been confirmed in 20 communities for the first time, in Colchester, Antigonish, Inverness and Victoria counties. The outlook is generally bleak but with concentrated control effort the elm can be saved.

Nova Scotia has many other important forest pests. Some of those, not discussed either because they are currently at an ebb of their cyclic fluctuation or because they are of localized importance, include: whitemarked tussock moth, European pine shoot moth, balsam gall midge, balsam twig aphid, balsam woolly adelgid, larch casebearer, various needle rusts of conifers, ash rust, maple leafroller, oak leaf-roller, oak leaf shredder, fall cankerworm, and others.

-L.P. Magasi
Forest Insect and Disease Survey

October 24, 1986